

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

TERRIE BANHAZL, doing business as \*  
HEIRLOOM CERAMICS, \*  
\*  
Plaintiff and Counter- \*  
Defendant, \*  
\*  
v. \* Civil Action No. 16-cv-10791-ADB  
\*  
\*  
THE AMERICAN CERAMIC SOCIETY, \*  
\*  
\*  
Defendant and Counter- \*  
Claimant. \*

**MEMORANDUM AND ORDER ON CLAIM CONSTRUCTION**

BURROUGHS, D.J.

Inventor Terrie Banhazl (“Plaintiff” or “Banhazl”) brings this patent infringement action against the American Ceramic Society (“Defendant” or “ACS”) and alleges that Defendant’s dissemination of how-to tutorials, step-by-step instructions, and instructional videos infringes all claims of U.S. Patent No. 7,622,237 (“’237 Patent”).<sup>1</sup> [ECF No. 1 ¶ 48]. The ’237 Patent is entitled “System, Apparatus, and Method for the Permanent Transfer of Images onto Glossy Surfaces” and claims a method for permanently transferring an image to a ceramic or glass piece. [ECF No. 1-1 (“’237 Patent”)]. Plaintiff, through her business Heirloom Ceramics, sells “multi-surface transfer paper with detailed instructions to create custom ceramic, porcelain, stoneware, and glass pieces using laser printer/photocopied images” following her patented methodology as well as books describing the patented methodology. [ECF No. 1 ¶ 2].

---

<sup>1</sup> The complaint named two other defendants, Justin Rothshank, a ceramic decal artist, and Bel, Inc., a company selling decal paper. See [ECF No. 1 ¶¶ 26–39]. Claims against both defendants have since been dismissed. See [ECF Nos. 7, 8].

The parties filed claim construction briefs concerning eight disputed terms, and the Court conducted a hearing on December 12, 2017 at which the parties presented their proposed constructions. See [ECF Nos. 30–31, 34–35, 44]. The Court construes the terms as set forth below.

## I. APPLICABLE LAW

Claim construction is the first stage of a patent infringement analysis and requires the Court to determine “the scope and meaning of the patent claims asserted.” Clearstream Wastewater Sys., Inc. v. Hydro-Action, Inc., 206 F.3d 1440, 1444 (Fed. Cir. 2000). Claim construction is a question of law for the court, Markman v. Westview Instruments, Inc., 517 U.S. 370, 372 (1996), to be resolved with an eye toward the fact that the Court’s adopted construction “becomes the basis of the jury instructions, should the case go to trial” on the issue of infringement, see AFG Industries, Inc. v. Cardinal IG Co., 239 F.3d 1239, 1244, 1247 (Fed. Cir. 2001).

The Federal Circuit has provided a framework governing claim construction. In general, a court must give claim terms their “ordinary and customary meaning,” which the Federal Circuit has deemed to be “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” Phillips v. AWH Corp., 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). “[W]here the ordinary meaning of claim language as understood by a person of skill in the art is not readily apparent,” courts generally consider a “hierarchy of sources to aid in claim construction.” Skyline Software Sys., Inc. v. Keyhole, Inc., 421 F. Supp. 2d 371, 375 (D. Mass. 2006). These sources include intrinsic evidence—including “the words of the claims themselves, the remainder of the specification, [and] the prosecution history” of the patent—and “extrinsic evidence concerning relevant scientific principles, the meaning of

technical terms, and the state of the art.” Phillips, 415 at 1314 (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The claim language itself is where claim construction “must begin and remain centered” because “the claims of a patent define the invention to which the patentee is entitled the right to exclude.” Innova/Pure Water, 381 F.3d at 1115–16. Second, the specification “is always highly relevant to the claim construction analysis” and “[u]sually . . . is dispositive.” Phillips, 415 F.3d at 1315 (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In the specification, a patentee may define her own terms, act as her own lexicographer, or disavow certain meanings. Id. at 1316. The Federal Circuit, however, has “warned against importing limitations from the specification into the claims absent a clear disclaimer of claim scope.” Andersen Corp. v. Fiber Composites, LLC, 474 F.3d 1361, 1373 (Fed. Cir. 2007). Third, the prosecution history may provide insight into how the inventor and the patent examiner understood the claim terms. See Phillips, 415 F.3d at 1317. Finally, courts may consider extrinsic evidence, such as inventor testimony, dictionaries, or learned treatises, but must “keep in mind the flaws inherent in each type of [extrinsic] evidence and assess that evidence accordingly.” Id. at 1317, 1319.

## II. CLAIM CONSTRUCTION

The parties present eight disputed claim terms for construction: (1) “permanently,” (2) “glossy surface/substrate having a glossy surface,” (3) “film covered transfer paper” or “transfer paper,” (4) “having the image printed” or “image is printed,” (5) “transferring the film to the glossy surface” or “transferring the film with the image onto the glossy surface,” (6) “evaporate,” (7) “embed(s),” and (8) “laser printing device.” [ECF No. 43-1]. The eight terms are emphasized in the following representative claims:

1. A method of permanently transferring an image to a substrate having a glossy surface, including:

providing a sheet of film-covered transfer paper having the image printed on the film side of the transfer paper, wherein the image is printed with an iron-oxide based toner;

transferring the film to the glossy surface; and

heating the substrate with the film to a temperature sufficient to evaporate the film and to embed the image into the glossy surface.

....

8. A method of permanently transferring an image to a substrate having a glossy surface, including:

printing the image onto the film side of a sheet of transfer paper using a laser printing device using an iron-oxide based toner;

transferring the film with the image onto the glossy surface;

heating the substrate with the film to a temperature such that the film evaporates and the image embeds into the glossy surface.

'237 Patent, Claims 1, 8.

#### A. Person of Ordinary Skill in the Art

“[T]he words of a claim ‘are generally given their ordinary and customary meaning.’”

Phillips, 415 F.3d at 1312–13 (quoting Vitronics, 90 F.3d at 1582). The “ordinary and customary meaning” is understood to be “the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention . . . .” Id. at 1313.

The parties agree that “the art” is ceramics but disagree on who a person of ordinary skill is. See [ECF No. 31 at 6; ECF No. 35 at 2–3]. Defendant defines a person of ordinary skill in the art as “an individual with a four-year college degree in the field of ceramics or pottery, or alternatively . . . an individual with a two-year associate’s degree or its equivalent with at least one apprenticeship or internship working intensively in the field of ceramics.” [ECF No. 31 at 6]. Defendant’s expert adds that:

Transferring an image to a ceramic piece requires working knowledge about the different types of clay and glaze that are being used. In order to transfer an image to a ceramic piece correctly, it must be fired correctly. This requires taking into account the type of clay used, the glaze composition, the type of image, and decals.

[ECF No. 31-2 ¶ 14]. Plaintiff defines a person of ordinary skill in the art as an individual “who has at least two years of experience making ceramics, taken approximately 2–3 preliminary courses – whether recreational or through a high school or college – and has familiarity with the tools and materials used in ceramics.” [ECF No. 35 at 3]. Whereas Defendant’s definition excludes Plaintiff, who has been practicing ceramics for 50 years but does not have a formal degree, Plaintiff’s definition sets the bar too low by including recreational hobbyists who may have never fired their own work. See [id.]; ECF No. 35-1]. Based on the specification and the declarations submitted by the parties, the Court finds that a person of ordinary skill in the art covered by the ’237 Patent is someone who has at least five years of experience making ceramics and has familiarity with the tools and materials commonly used in ceramics, including clays, glazes, and the use of a kiln.

#### B. “Permanently”

Banhazl’s Proposed Construction	ACS’s Proposed Construction
In a way that lasts or remains unchanged indefinitely. Not a separate limitation.	In a way that exists perpetually. This term has a limiting effect on the claims.

The word “permanently” appears in the preamble. As a general rule, a preamble is limiting, meaning that it is given the same import as a claim term, only if it is “necessary to give life, meaning, and vitality to the claims.” Kropa v. Robie, 187 F.2d 150, 152 (CCPA 1951). The Federal Circuit has articulated several guidelines for determining whether a preamble is limiting. For example, “when the claim drafter chooses to use both the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the

one the patent protects.” Eaton Corp. v. Rockwell Intern. Corp., 323 F.3d 1332, 1339 (Fed. Cir. 2003) (citations omitted). Similarly, “[w]hen limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.” Id. By contrast, “if the body of the claim sets out the complete invention, then the language of the preamble may be superfluous.” Id. (quoting Schumer v. Lab. Comp. Sys., Inc., 308 F.3d 1304, 1310 (Fed. Cir. 2002)).

In addition, “where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention, the preamble is not a claim limitation.” Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997). “The determination of whether preamble recitations are structural limitations or mere statements of purpose or use can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” Id. (quoting Corning Glass Works v. Sumnitomo Elec. U.S.A., Inc., 868 F.2d 1251, 1257 (Fed. Cir. 1997)); see Am. Med. Sys., Inc. v. Biolitec, Inc., 618 F.3d 1354, 1358 (Fed. Cir. 2010) (“Whether to treat a preamble term as a claim limitation is ‘determined on the facts of each case in light of the claim as a whole and the invention described in the patent.’” (quoting Storage Tech. Corp. v. Cisco Sys., Inc., 329 F.3d 823, 831 (Fed. Cir. 2003))). The Federal Circuit has recognized, however, that preambles of method claims typically employ the following standard language pattern: “‘a method for a purpose or intended use comprising,’ followed by the body of the claim, in which the claim limitations describing the invention are recited.” TomTom, Inc. v. Adolph, 790 F.3d 1315, 1323–24 (Fed. Cir. 2015).

As an initial matter, the parties do not dispute that the portions of the preamble that provide antecedent basis for the claim (*i.e.* the terms “an image,” “a substrate,” and “a glossy

surface”) are limiting. Accordingly, the Court considers only whether the term “permanently” is limiting.

Plaintiff contends that the preamble is not limiting. See [ECF No. 30 at 7–8]. Based on case law holding that “[a] preamble generally is not limiting if deletion of the preamble phrase does not affect the structure or steps of the claimed invention,” Plaintiff argues that removing the term “permanently” from the preamble does not affect the structure or steps of the claimed invention. [Id. at 8 (citing IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1434 (Fed. Cir. 2000))]. Plaintiff further asserts that the preamble is comprised of two distinct portions: (i) a general description of the method (“a method of permanently transferring”) and (ii) “*what* is being transferred to *where*” (“an image to a substrate having a glossy surface”). [ECF No. 35 at 3–4]. She identifies the first portion as “merely describ[ing] the outcomes of the invention” rather than a separate claim limitation. [Id. at 4].

Defendant argues that the preamble must be limiting because it is necessary to explain the meaning of the terms “embed” and “transferring” that are used in the claims. [ECF No. 34 at 4]. It asserts that removing the term “permanently” from the preamble alters the meaning of the claim terms in such a way that would allow the claim to cover both permanent and non-permanent transfers, which is not the inventor’s stated purpose. [Id. at 5]. Defendant also directs the Court to the specification, which repeatedly references permanently transferring an image to a glossy substrate. [ECF No. 31 at 11].

The Court finds that the preamble term “permanently” is limiting because, under the prevailing standard, it is “necessary to give life, meaning, and vitality to the claims.” See Kropa, 187 F.2d at 152. The heart of Plaintiff’s invention, as described in the specification and as demonstrated at the Markman hearing, is a method of permanently transferring an image to a

ceramic or glass object.<sup>2</sup> While the phrase “a method of permanently transferring” is used in the preamble to state the invention’s purpose, it is also necessary to complete the claims to reflect what Plaintiff “actually invented” because the claim terms do not inherently include the concept of permanence. Cf. Eaton Corp., 323 F.3d at 1339 (noting that claim drafter may opt to use both the preamble and the body of the claim to define the invention); Rowe, 112 F.3d at 478 (instructing courts to review “the entirety of the patent to gain an understanding of what the inventors actually invented” when determining whether a preamble is limiting).

Having concluded that the term “permanently” is limiting, the Court will construe the term. Plaintiff asks the Court to construe “permanently” to mean “in a way that lasts or remains unchanged indefinitely,” which is the New Oxford American Dictionary definition of the term. [ECF No. 30 at 7]. Defendant proposes to construe “permanently” as “in a way that exists perpetually.” [ECF No. 31 at 9, 11–12]. The parties’ proposals are largely consistent, and the Court incorporates both proposed definitions by construing the term “permanently” to mean in a way that exists or remains unchanged for the life of the substrate.

---

<sup>2</sup> See, e.g., Patent ’237 at Col. 2, Lns. 62–64 (distinguishing invention from prior art because “in this invention the glazed ceramic piece with image adhered is then fired in a kiln to permanently affix the image”); id. at Col. 4, Lns. 8–9 (defining “functional” as “glossy substrates with images that are permanent, oven proof and dishwasher safe”); id. at Col. 4, Lns. 38–40 (defining “kiln” as “an oven which is capable of reaching temperatures high enough to permanently affix glazes and iron oxide toners to the substrate”); id. at Col. 5, Lns. 52–57 (observing that “[d]uring this firing process, the decal’s film layer, residual adhesive, and the polymer additives of the toner melt and/or evaporate leaving just the iron oxide pigment of the print and the color from any colored glazes that were used, permanently affixed to the surface”).

C. “Glossy surface/substrate having a glossy surface”

Banhazl’s Proposed Construction	ACS’s Proposed Construction
Plain and ordinary meaning, or the outside of a glazed ceramic piece fired in a kiln or a glass object.	A glaze-coated or inherently glossy object in which an additional glaze is applied to the object prior to an image being applied to the object via a transfer agent.

The parties dispute whether the claim terms require an additional glaze to be applied to an object before the image is applied with the transfer paper. See [ECF No. 30 at 9–10; ECF No. 31 at 13–15]. Defendant proposes to construe the claim term “substrate having a glossy surface” rather than “glossy surface” and interprets it to mean a glossy substrate having an additional glossy surface. [ECF No. 31 at 13–15]. Plaintiff recommends construing “glossy surface” using its plain and ordinary meaning, or the “outside of a glazed ceramic piece fired in a kiln or a glass object.” [ECF No. 30 at 9–10]. She arrives at her proposed construction by combining the definition of “glaze” with the standard meaning of “surface.” [Id. at 10]. The specification defines “glaze” as “the coating that becomes a glossy surface” and notes that “a substrate may be acquired already glazed or, in the example of bisque, it may have a glaze applied to obtain a glossy surface.” ’237 Patent at Col. 4, Lns. 10–15.<sup>3</sup>

---

<sup>3</sup> Much of the dispute concerning the claim terms “glossy surface” and “substrate having a glossy surface” stems from the definition of “glossy substrate” in the ’237 Patent. “Glossy Substrate” is defined as

the surface of an object after it has been coated with a ceramic glaze or is inherently glossy (i.e. glass or commercially available glazed ceramic pieces) and is capable of withstanding the firing temperatures of a kiln. In exemplary embodiments of the present invention, a glossy substrate may be made to have a glossy surface through the application of a glaze prior to applying an image via the transfer agent.

’237 Patent at Col. 4, Lns. 25–32 (emphasis added). Defendant predominantly supports its proposed construction of multiple glazes with the phrase “a glossy substrate may be made to have a glossy surface.” [ECF No. 31 at 14–15]. Plaintiff suggests that there is a typographical error in this sentence and it should instead read “a glossy substrate may be made to have its

The Court adopts Plaintiff's proposed construction as consistent with the claims and the specification. First, Plaintiff's construction is common sense and what a person of ordinary skill in the art would understand after reading the specification and claim terms. [ECF No. 30 at 10–11]. As Plaintiff attests, it is commonly understood among ceramicists that double-glazing an object is not a common practice and gives unpredictable results. [ECF No. 30-3 ¶¶ 8–10]. In contrast, Defendant's expert did not endorse Defendant's proposed construction of “substrate having a glossy surface.” See generally [ECF No. 31-2]. He does not express an opinion about double-glazing specifically but nevertheless does not appear to read the '237 Patent as requiring double-glazing. See [id. at ¶¶ 12–13 (describing bisque and glazed ceramic pieces and “[h]ow an image is transferred to a ceramic or bisque pieces”)].

Second, Defendant's reading of the claim language as requiring multiple glazes is not supported by the specification. The specification consistently provides examples of objects, such as bisque, being glazed once, or objects being “inherently glossy (i.e. glass or commercially available glazed ceramic pieces).” '237 Patent at Col. 4, Lns. 25–27. For example, neither Figure 1 nor Figure 2 suggests that a double-glazing process occurs. See id. at Figs. 1, 2. Both Figure 1 and Figure 2 refer to a “preglazed” ceramic item or object. Id. Figure 2 also provides an alternate process whereby a “[b]isque object receives three coats of white ceramic gloss glaze,” “[c]olored ceramic glazes [are] painted around and directly under where image is to be placed,” and the “[o]bject is fired in a kiln” to the glaze manufacturer's specifications. Id. at Fig. 2. The exemplary embodiment of the invention described in the specification also does not suggest that a double-glazing process occurs. Id. at Col. 5, Lns. 24–59. It describes glazing a

---

glossy surface . . . .” [ECF No. 35 at 6–7 (emphasis added)]. In light of its construction, the Court declines to make any corrections to the words of the specification to further resolve the dispute between the parties.

bisque plate and adding colored glazes below where the image will sit if desired before firing once. Id. at Col. 5, Lns. 24–34. The image is then adhered and colored glazes may be added on top of the adhered but unfired decal, if desired; though the entire plate is never reglazed. Id. at Col. 5, Lns. 49–51. The plate is then fired, during which “the original glaze covering of the plate softens” to allow the iron-oxide pigment to sink permanently into the glaze. Id. at Col. 5, Lns. 57–59. The reference to the “original glaze” softening strongly suggests that there is not a second glaze applied above the original glaze because, had there been, it would be the second glaze softening and into which the iron oxide would embed because any second glaze would sit atop the original glaze. Finally, Defendant’s construction does not account for items that are “inherently glossy,” such as glass objects, which are discussed in the specification and expressly included in the claims. Id. at Col. 4, Lns. 25–27; id. at Col. 7, Lns. 1–2. The specification does not suggest that glass objects require the application of a glaze before being fired and having the image applied.

Accordingly, the Court adopts Plaintiff’s proposed construction and construes the term “glossy surface” to have its plain and ordinary meaning, or the outside of a glazed ceramic piece fired in a kiln or a glass object.

**D. “Film covered transfer paper” or “transfer paper”**

Banhazi’s Proposed Construction	ACS’s Proposed Construction
Paper backing stock bonded to a thin plastic layer by an adhesive which releases when moistened; also referred to as water slide decal paper.	Decal paper that is pre-coated with a film and acts as a transfer agent.

At the Markman hearing, the parties agreed upon the following construction for the disputed claim term, “film covered transfer paper” or “transfer paper:” “decal paper that is

**pre-coated with a film and acts as a transfer agent; also referred to as water slide decal paper.**” The Court adopts this construction.

E. “Having the image printed” or “image is printed”

Banhazl’s Proposed Construction	ACS’s Proposed Construction
Reproduce an exact likeness in printed form using off the shelf equipment requiring no customization.	Having the image printed using a black and white laser printer or photocopier.

The term “image” is not genuinely disputed by the parties, is straightforward, and has no special meaning in the art. Therefore, the Court construes “image” as having its **plain and ordinary meaning**, which would be readily apparent to a lay jury. See Ossur HF v. iWalk, Inc., No. 12-cv-11061-FDS, 2013 WL 4046709, at \*19 (D. Mass. Aug. 8, 2013) (“A court is not required to provide additional language construing a claim if its ordinary meaning can be readily understood by a layperson and adopting it would resolve the parties’ dispute concerning interpretation.” (citing O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co., 521 F.3d 1351, 1361 (Fed. Cir. 2008)); see also Vivid Techs., Inc. v. Am. Science & Eng’g, Inc., 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”)).

The crux of the parties’ dispute concerning the claim term “printed” is how to describe the machinery used to print or reproduce an image. Defendant argues that the ’237 Patent limits the invention to black and white, *i.e.* monochromatic, laser printers or photocopiers. [ECF No. 31 at 20–21; ECF No. 34 at 13]. Defendant supports its contention that any printing must be limited to black and white with the ’237 Patent’s definition of “Toner,” which incorporates the term “Imaging Device.” [ECF No. 31 at 21]; see ’237 Patent at Col. 5, Lns. 1–3 (defining “Toner” as “a printing medium with 30%+ iron oxide content that is found in certain off-the-

shelf imaging devices"); *id.* at Col. 4, Lns. 33–37 (defining "Imaging Device" as "any black and white laser printer or photocopier containing toner with a greater-than 30% iron oxide content").

Plaintiff rejects Defendant's proposed reference to "a black and white laser printer or photocopier" as redundant. [ECF No. 35 at 9]. Plaintiff argues convincingly that importing what is essentially the construction of "laser printing device" into this term creates redundancies in claims 6 and 8, which both specifically reference a "laser printing device." [*Id.*]. Plaintiff's argument is further supported by a general rule of claim construction in which dependent claims are assumed to narrow the independent claims that they follow. See Phillips, 415 F.3d at 1315 (observing that "the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim").

A review of claims 1 and 6 illustrate the redundancy caused by Defendant's proposed construction:

1. A method of permanently transferring an image to a substrate having a glossy surface, including:

providing a sheet of film-covered transfer paper having the image printed on the film side of the transfer paper, wherein the image is printed with an iron-oxide based toner;

transferring the film to the glossy surface; and

heating the substrate with the film to a temperature sufficient to evaporate the film and to embed the image into the glossy surface.

....

6. The method of claim 1, wherein the step of providing the transfer paper includes printing the image on the film side of the transfer paper with a laser printing device.

'237 Patent, Claims 1, 6 (emphasis added). If the terms "having the image printed" and "image is printed" in claim 1 are construed to require printing with a "black and white laser printer or photocopier," then claim 6, which requires printing with a laser printing device, is duplicative of what is claimed in claim 1. Thus, the Court will not import the limitation "black and white" into

the term “printed” in order to avoid the redundancy between claims 1 and 6 and 1 and 8 that doing so would cause and in light of the construction of the term “laser printing device,” discussed in Section II.I., infra.

Defendant’s proposed description of the device used to print as “a printer or photocopier” is more specific than Plaintiff’s proposed “off the shelf equipment,” and is more consistent with the ’237 Patent’s definition for “imaging device,” which references printers and photocopiers. See [ECF No. 30 at 14–16; ECF No. 31 at 20–21; ECF No. 34 at 13]. In addition, where the specification references “off the shelf equipment,” it generally refers back to an “imaging device,” which is a printer or a photocopier, or describes printers and photocopiers specifically. See, e.g., ’237 Patent at Abstract (stating that “[u]sing off-the-shelf supplies and equipment, a user may print or copy any image to an imaging device utilizing toner with iron oxide to imprint the image onto a film covered transfer agent”); id. at Col. 3, Lns. 25–26 (“The printing technique of this invention uses standard off-the-shelf black and white laser printers or photocopiers[] . . .”). The specification does not refer to other devices, such as fax machines or scanners, as “off-the-shelf,” and the Court sees no reason to expand the definition of “printed” in that way. See id. at Col. 4, Lns. 52–57. Furthermore, the specification defines “off-the-shelf” to include a variety of equipment, including printers, decal paper, and glazes, whereas the primary equipment necessary for the step of “having the image printed” is printers and photocopiers. See id.

Accordingly, the Court construes “printed” to mean **reproduced using a printer or photocopier.**

**F. “Transferring the film to the glossy surface” or “transferring the film with the image onto the glossy surface”**

Banhazl’s Proposed Construction	ACS’s Proposed Construction
Adhering film onto the outside of a ceramic or glass piece without flipping over or adding adhesive.	Plain and ordinary meaning for “transferring the film to” and “transferring the film with the image onto;” “glossy surface” construed to mean “additional glaze applied prior to an image being transferred to the object via a transfer agent.”

The terms “film,” “glossy surface,” and “image” have already been construed. See supra at Sections II.C., II.D., II.E.

Plaintiff seeks to construe the terms “transferring . . . to” or “transferring . . . onto” as equivalent to the term “adhere” as used throughout the specification. [ECF No. 30 at 16]. Plaintiff asserts that the specification repeatedly describes “transferring the film to the glossy surface” as a step involving adhering the film to the surface of the substrate. [ECF No. 35 at 10]. She further asserts that “the core of the invention” is the fact that the film is “sandwich[ed]” between the image and the substrate rather than placing the image directly on the substrate. [ECF No. 30 at 17]. Plaintiff states that this application method is the primary way in which her invention is distinguished from prior art and that it is, therefore, a necessary limitation at the heart of the invention. [Id. at 17–18; ECF No. 35 at 11].

Defendant contends that the specification does not support a deviation from the plain and ordinary meaning of “transferring the film to.” [ECF No. 31 at 19]. Defendant argues that no intrinsic evidence supports Plaintiff’s proposed construction and notes that the specification discloses two embodiments in which the film is adhered to the surface of the ceramic or glass object without further description as to how that is done. [Id. at 20; ECF No. 34 at 12 (quoting

'237 Patent at Col. 6, Lns. 21–22 (“[t]he film layer is adhered to an already glazed ceramic piece”), and then Col. 6, Lns. 45–46 (“[t]he film layer is adhered to the surface of the object”)).

The Court agrees with Defendant and concludes that the terms “transferring . . . to” or “transferring . . . onto” should be construed as having their **plain and ordinary meaning**, which would be readily understood by a lay jury to mean placing the film onto a surface. See Ossur HF, 2013 WL 4046709, at \*19 (“A court is not required to provide additional language construing a claim if its ordinary meaning can be readily understood by a layperson and adopting it would resolve the parties’ dispute concerning interpretation.” (citing O2 Micro Int’l Ltd., 521 F.3d at 1361)). Even if the Court were inclined to adopt Plaintiff’s proposed construction, there is nothing in the claim terms themselves to support her narrow reading, and the Court may not import limitations from the specification into the claims that are not grounded in the claim terms. See Phillips, 415 F.3d at 1323.

#### G. “Evaporate”

Banhazl’s Proposed Construction	ACS’s Proposed Construction
Melt; process of removing materials through vaporization.	To convert into vapor (i.e., a substance in gaseous form that is in liquid or solid form under normal conditions).

Plaintiff proposes to construe the term “evaporate” to include the concepts of both vaporization, defined as removing materials, and melting. [ECF No. 30 at 18–19]. She bases this proposed construction on the specification’s repeated use of the term “melts or evaporates” and its references to evaporation as a way to remove materials when an object is fired in a kiln. [Id.]; see, e.g., ’237 Patent at Abstract (“It is then fired in a kiln where the surface of the glossy substrate softens and the film of the transfer agent melts or evaporates away . . . .”); id. at Col. 3, Lns. 4–10 (“the residual adhesive, the polymer additives of the toner, and the film under the

image, melts or evaporates away”); id. at Col. 5, Lns. 52–57 (“During this firing process, the decal’s film layer, residual adhesive, and the polymer additives of the toner melt and/or evaporate . . .”).

Defendant argues for the dictionary definition of “evaporate,” or turning a substance into vapor, which it argues a “skilled artisan” would understand the term “evaporate” to mean. [ECF No. 31 at 16 –17]. Defendant insists—and is correct—that “melting” and “evaporating” are two discrete chemical processes. See [id. at 16]. Defendant contends that a few passing references in the specification cannot redefine the term “evaporate” to mean “melt.” [ECF No. 34 at 10].

The term “evaporate” is used twice in the claims as follows:

- Claim 1: “heating the substrate with the film to a temperature sufficient to evaporate the film and to embed the image into the glossy surface”
- Claim 8: “heating the substrate with the film to a temperature such that the film evaporates and the image embed into the glossy surface.”

’237 Patent, Claims 1, 8. In both claims, the reference to the film evaporating is used as a benchmark to indicate the appropriate temperature for the kiln when firing the object with the film adhered. See id. Both claims 1 and 8 follow the reference to evaporation with an “and” and then introduce another benchmark for the same temperature: embedding the image into the glossy surface. See id. at Col. 6, Lns. 64–65, Col. 8, Lns. 8–9. The use of the term “and” strongly suggests that the temperature benchmarks provided are equivalents; in other words, the kiln must be hot enough to both “evaporate the film” and “embed the image into the glossy surface.” The specification defines “kiln firing temperatures” as “interior kiln temperatures that are high enough to allow glazes and iron oxide pigments to permanently affix to the selected substrate,” which “is often the same or slightly lower than the firing temperature of the original glaze coating of the glossy substrate so that the surface may soften just enough to allow the print to permanently sink in.” Id. at Col. 4, Lns. 44–51. In the exemplary embodiment of the

invention, the ceramic plate is fired to cone 6, or 1855 degrees Fahrenheit. Id. at Col. 5, Ln. 51–52.

When heat is slowly applied to a solid, it typically melts and then, after melting into a liquid, evaporates. Were a solid, such as a film, put into a kiln that was then heated up to 1855 degrees Fahrenheit, it would not simply evaporate, or change into a gas. Instead, it would first melt, and then, those portions that became liquid would evaporate. Defendant’s expert supports this basic science when he attests that he understands the ’237 Patent “to mean that, when following steps of the method, the film evaporates (that is, turns from a solid/liquid into a gaseous substance). [ECF No. 31-2 ¶ 73]. He adds that, in his experience, film burns during firing in a kiln, rather than immediately evaporating. [Id.]. Further, the specification acknowledges that the film must first melt before it evaporates, by referring to “the melting phase of the film.” See id. at Col. 2., Ln. 67–Col. 3, Ln. 4 (“Because the printed image is applied with a layer of film sandwiched between the image and the substrate it is counterintuitive to believe that the image would survive the high firing temperatures of a kiln without being corrupted during the melting phase of the film.”).

In light of the foregoing, the Court adopts the following construction for the claim term “evaporate”: **to change a material into gas, including any predecessor melting phase.** Rather than equating the terms “melt” and “evaporate,” this construction defines evaporation to mean both evaporation and the predecessor phase of melting, which more closely reflects the spectrum of activity that occurs and what a person of ordinary skill in the art would understand when reading the claims in the context of the specification.

## H. “Embed(s)”

Banhazl’s Proposed Construction	ACS’s Proposed Construction
Sink into.	To fix or be fixed into a surrounding mass permanently (i.e., in a way that exists perpetually).

Plaintiff argues that the plain and ordinary meaning of “embed” should be used because the ’237 Patent does not provide a special definition for the term. [ECF No. 30 at 21]. Consistent with this, Plaintiff proposes to construe the term “embed” to mean “sink into.” [Id.]. She argues that the specification uses the term “sink into” rather than embed to refer to the same process. [Id. at 20–21]. For example, claim 1 requires, “heating the substrate with the film to a temperature sufficient to evaporate the film and to embed the image into the glossy surface.” ’237 Patent at Col. 6, Lns. 63–64. Similarly, the specification refers to firing the piece at the same or slightly lower temperature than the original glaze coating “so that the surface may soften just enough to allow the print to permanently sink in.” Id. at Col. 4, Lns. 47–51. It also describes how the original glaze coating of the piece “softens during firing allowing the iron oxide pigment and additional colored glazes to sink permanently into the plate’s surface.” Id. at Col. 5, Lns. 57–59. Defendant opposes the construction of “embed” as “sink into” because it does not incorporate the concept of permanence, which is central to the claims. See [ECF No. 31 at 22 (defending its proposed construction as “tak[ing] into account the *only way* for an image to be permanently transferred to a glossy substrate”); ECF No. 34 at 15].

The Court has already found that the term “permanently” used in the preamble is a claim limitation. See supra Section II.B. Accordingly, it is not necessary to construe the term “embed” to include the concept of permanence. The Court agrees that the specification does not define “embed” to mean something other than its plain and ordinary meaning, and therefore, adopts

Plaintiff's proposed construction of "embed" as meaning "sink into," which is the term's plain and ordinary meaning.

### I. "Laser printing device"

Banhazl's Proposed Construction	ACS's Proposed Construction
A machine capable of reproducing images using at least black toner.	A black and white laser printer.

Plaintiff argues that the term "laser printing device" should be broadly construed to include any "machine capable of reproducing images using at least black toner." [ECF No. 35 at 13]. In support of this proposed construction, Plaintiff directs the Court to two statements in the specification. [Id. at 13–14]. The first is that: "a user may print or copy any image to an imaging device utilizing toner with iron oxide to imprint the image onto a film covered transfer agent." [Id. at 13]. The second is the explanation that "[i]n embodiments of the present invention, an iron oxide containing toner, standard in many inexpensive mass marketed 'off-the-shelf' laser printers and photocopiers, is used to print any image or photograph onto a transfer agent, in this case a film covered water slide decal paper." [Id. at 13–14].

Defendant takes a narrower view of this term and continues to argue that the '237 Patent limits the claims to black and white, *i.e.* monochromatic, laser printers, relying on ICU Medical, Inc. v. Alaris Medical Systems, Inc., 558 F.3d 1368, 1374–75 (Fed. Cir. 2009). [ECF No. 31 at 21]. Defendant, however, deviates from its proposed construction for "having the image printed" when it proposes that "laser printing device" be construed to reference only printers, not photocopiers. See [id. at 20–21 (proposing to construe "having the image printed" as "having the image printed using a black and white laser printer or photocopier")].

The Court largely adopts Defendant's proposed construction. First, the Court includes both printers and photocopiers in the definition of "printing device" because both are included in

the definition of “Imaging Device.” ’237 Patent at Col. 4, Lns. 33–37. In addition, nothing in the claims limits the term “printing device” to only printers, and Defendant has not adequately supported adopting such a limitation.

Second, the Court reads the limitation “black and white” into the term “laser printing device” based on the definitions for “Toner” and “Imaging Device” in the specification and on the repeated use of the phrase “black and white” in the specification and in the original patent terms. The ’237 Patent defines two key terms related to the concept of “laser printing device”: “Toner” and “Imaging Device.” “Toner” is defined as “a printing medium with 30%+ iron oxide content that is found in certain off-the shelf imaging devices.” ’237 Patent at Col. 5, Lns. 1–3. “Imaging Device” is defined in turn as “any black and white laser printer or photocopier containing toner with a greater-than 30% iron oxide content.” Id. at Col. 4, Lns. 33–37. The predominant feature of printing devices mentioned throughout the specification is that they contain an iron-oxide toner. See, e.g., id. at Abstract (“[A] user may print or copy any image to an imaging device utilizing toner with iron oxide . . .”); id. at Col. 2, Lns. 15–16 (“With the advent of inexpensive mass marketed, ‘off-the-shelf’ black and white laser printers and copiers equipped with iron oxide containing toners . . .”); id. at Col. 2, Lns. 49–51 (“In embodiments of the present invention, an iron oxide containing toner, standard in many inexpensive mass marketed ‘off-the-shelf’ laser printers and photocopiers . . .”); id. at Col. 3, Lns. 25–27 (“The printing technique of this invention uses standard off-the-shelf black and white laser printers or photocopiers[] containing iron oxide based toners . . .”). Where the term “toner” has been limited by the specification to refer to “imaging devices,” which in turn is limited to “any black

and white laser printer or photocopier,” it follows that “printing devices” must be limited to black and white devices as well. See id. at Col. 4, Lns. 33–37; id. at Col. 5, Lns. 1–3.

In addition, the phrase “black and white” appears in the original proposed claim terms alongside “imaging device.” See [ECF No. 31-1 at 42, 47 (Patent Application) (“The method as claimed in claim 1, wherein said off the shelf equipment is comprised of black and white reprographic imaging devices.”)]. In the updated claims, the term “imaging device” was replaced with “laser printing device,” though no rationale was provided for the replacement. Compare [ECF No. 31-1 at 47 (referencing “black and white reprographic imaging devices”)], with ’237 Patent, Claims 6, 8 (referencing printing with “a laser printing device”). It is clear from looking at the original application that the inventor intended black and white devices to be used. See [ECF No. 31-1 at 42]. Furthermore, the specification also repeats the phrase “black and white” throughout. See, e.g., ’237 Patent at Fig. 1 (referencing “black and white laser printer” and “black and white photocopier”); id. at Fig. 2 (same); id. at Col. 2, Lns. 15–16 (“With the advent of inexpensive mass marketed, ‘off-the-shelf’ black and white laser printers and copiers . . .”); id. at Col. 3, Lns. 25–27 (“The printing technique of this invention uses standard off-the-shelf black and white laser printers or photocopiers[. . .”]).

Although it is well-settled that courts may not import limitations from the specification into the claims, in some circumstances, as here, a limitation may be read into the claims based on the usage of a term throughout the specification and how a person of ordinary skill in art would understand the claim term, in light of the specification. See ICU Medical, 558 F.3d at 1375 (quoting Phillips, 415 F.3d at 1321, 1323); Phillips, 415 F.3d at 1320, 1323. Based on the definitions provided in the specification and the references throughout the specification and prosecution history, it seems apparent that a person of ordinary skill in the art would understand

the term “laser printing device” to refer to only black and white or monochromatic printers and photocopiers. Accordingly, the Court construes the term “laser printing device” to mean a black and white laser printer or photocopier.

### III. CONCLUSION

Accordingly, the claim terms at issue will be construed for the jury and for all other purposes in this litigation in a manner consistent with the above rulings of the Court. For ease of reference, the Court’s constructions are reproduced below in Appendix A.

Within seven days of this Order, the parties shall submit a joint status report stating their mutual or respective positions concerning whether the scheduling order in this matter [ECF No. 21] should be amended. Unless the Court issues a new scheduling order, the existing deadlines for fact discovery, expert discovery, and dispositive motions control.

### SO ORDERED.

July 26, 2019

/s/ Allison D. Burroughs  
ALLISON D. BURROUGHS  
U.S. DISTRICT JUDGE

## Appendix A

<b>Disputed Claim Term</b>	<b>Court's Adopted Construction</b>
“Permanently”	Preamble is limiting. In a way that exists or remains unchanged for the life of the substrate.
“Glossy surface/substrate having a glossy surface”	Plain and ordinary meaning, or the outside of a glazed ceramic piece fired in a kiln or a glass object.
“Film covered transfer paper” or “transfer paper”	Decal paper that is pre-coated with a film and acts as a transfer agent; also referred to as water slide decal paper.
“Having the image printed” or “image is printed”	Reproduce an image using a printer or photocopier.
“Transferring the film to the glossy surface” or “transferring the film with the image onto the glossy surface”	“Transferring . . . to” or “transferring . . . onto:” plain and ordinary meaning. “Film:” decal paper that is pre-coated with a film and acts as a transfer agent; also referred to as water slide decal paper. “Image:” plain and ordinary meaning. “Glossy surface:” plain and ordinary meaning, or the outside of a glazed ceramic piece fired in a kiln or a glass object.
“Evaporate”	To change a material into gas, including any predecessor melting phase.
“Embed(s)”	Plain and ordinary meaning, or sink into.
“Laser printing device”	A black and white laser printer or photocopier.